

# The Sandy Hook Elementary School shooting as tipping point

## “This Time Is Different”

James M Shultz<sup>1,\*</sup>, Glenn W Muschert<sup>2</sup>, Alison Dingwall<sup>3</sup> and Alyssa M Cohen<sup>4</sup>

<sup>1</sup>Center for Disaster & Extreme Event Preparedness (DEEP Center); University of Miami Miller School of Medicine; Miami, FL USA; <sup>2</sup>Department of Sociology and Gerontology; Miami University; Oxford, OH USA; <sup>3</sup>Social, Behavioral, and Linguistic Sciences Department; The MITRE Corporation; McLean, VA USA; <sup>4</sup>Cooper City, FL USA

**Keywords:** school shootings, rampage shootings, shooting massacres, mass shootings, Population Exposure Model, mediated event, social media, firearm homicides

Among rampage shooting massacres, the Sandy Hook Elementary School shooting on December 14, 2012 galvanized public attention. In this Commentary we examine the features of this episode of gun violence that has sparked strong reactions and energized discourse that may ultimately lead toward constructive solutions to diminish high rates of firearm deaths and injuries in the United States.

### Introduction

On December 14, 2012, Sandy Hook Elementary School in Newtown, Connecticut became the unlikely scene of the second-deadliest school-based shooting massacre in US history.<sup>1,2</sup> Twenty first-grade school children and six school staff were gunned down in the space of 12 minutes. The rampage was cut short by the rapid deployment of law enforcement personnel whose arrival on-scene prompted the shooter, Adam Lanza, to drop his assault rifle and commit suicide with a handgun.<sup>1</sup>

In the aftermath, the Sandy Hook Elementary School shooting has been described as a “tipping point” (a direct reference to Malcolm Gladwell’s formulation of this concept<sup>3,4</sup>) in a national discussion regarding a broad array of potential solutions to curb gun violence.<sup>5</sup> In this commentary, we examine several interrelated features that contribute to Sandy Hook’s potential for catalyzing the national conversation on firearm homicides. We will describe how the prominence of this mass shooting is related to: 1) the rarity and extremity of this event; 2) the strong identification of the American population with the affected community of Newtown; 3) the active involvement of high-visibility leaders of influence (and “connectors”<sup>3,4</sup>) in maintaining the salience of the gun violence issue; 4) the multiple tiers of psychological impact, ultimately extending nationwide; 5) the evolution of the media “framing” of the incident as the extensive coverage unfolded; and 6) the proliferation of social media communications about the shooting, providing an inclusive platform for broad public discourse (Table 1).

### Sandy Hook Rampage Shooting: Rare and Extreme Event

Sandy Hook stands out because of the large number of deaths in a single incident; the nihilistic nature of this intentional, premeditated act; and the characteristics of the victims: young, innocent, defenseless children and the heroic teachers and school staff who died shielding them.<sup>1,2</sup> The Newtown shooting was immediately labeled as a “fundamentally different” episode of gun violence.<sup>6,7</sup>

Indeed, while firearm deaths are common, rampage school shooting deaths are sporadic and few.<sup>2</sup> Today in the United States, midnight to midnight, more than 85 persons will die by firearm.<sup>2,8</sup> More than half of these deaths will be self-inflicted suicides and more than 40% will be homicides. The “counter” resets every midnight and the death toll repeats each day.

Providing a counterpoint, our research indicates that shooting deaths that occur in school settings represent only 0.12% of national firearm homicides and most of these incidents are “targeted” shootings in which the perpetrator intentionally seeks out and kills one or more specific individuals.<sup>2</sup> School-based “rampage” or mass murder shooting incidents, as exemplified by Columbine High School, Virginia Tech University, or Sandy Hook Elementary School, account for only about one-eighth of school shooting episodes and 0.04% of national firearm homicides.<sup>2,9</sup>

Despite the reality that the United States has the highest firearm suicide, homicide, and total firearm mortality rates in

\*Correspondence to: James M Shultz; Email: jamesmichaelshultz@gmail.com

Submitted:10/29/13; Accepted:10/29/13; Published Online: 11/11/13

Citation: Shultz JM, Muschert GW, Dingwall A, Cohen AM. The Sandy Hook Elementary School shooting as tipping point: “This Time Is Different”. *Disaster Health* 2013; 1:65–73; <http://dx.doi.org/10.4161/dish.27113>

**Table 1.** Sandy Hook Elementary School shooting massacre: Defining features

<b>1) Sandy Hook Rampage Shooting: Rare and Extreme Event</b>
<b>2) Public Identification with Newtown, Connecticut</b>
<b>3) Involvement from Influence Leaders at the Highest Levels</b>
<b>4) Pervasive Psychological Impact in Relation to Levels of Exposure</b>
<b>5) Extensive Media Exposure and Media Framing of Sandy Hook</b>
<b>6) Proliferation of Social Media Communications</b>

the developed world,<sup>2</sup> most days the public is oblivious to the steady daily drumbeat of gun deaths. However, on December 14, 2012, the shooting massacre in Newtown abruptly brought the nation to alert attention on this issue. Indicative of the “tipping point” nature of Sandy Hook, Slate.com initiated, and continuously maintains, a website displaying a running tally of United States gun deaths post-Newtown.<sup>10</sup> In the aftermath, as the focus remained riveted on the 28 deaths in Newtown on that day (20 children, 6 school staff, the shooter’s mother, and the shooter), the number of firearm deaths across America has steadily accumulated and has surpassed 27,477 fatalities in ten months as this commentary goes to press. Sandy Hook was rare, extreme, and got the nation talking.

### **Public Identification with Newtown, Connecticut**

The Sandy Hook Elementary School shooting occurred in the self-described “scenic small town” of Newtown, Connecticut.<sup>11</sup> As a quintessentially safe community (the violent crime rate at 0.47 crimes/1,000 residents—is one-eighth of the US average),<sup>12</sup> Newtown attracts an inflow of new residents who transplant their families in order to avail themselves of the fine schools and wholesome milieu. Given this exemplary community identity, the brutal events of December 14, 2012 are all the more incongruous. In part, the forceful and immediate public reaction may have been triggered by the powerful identification with the desirable qualities of the community where the shooting occurred. Many Americans live in communities like Newtown; many more aspire to do so.

In the public’s mind, mass violence came to be associated with distressed inner city neighborhoods, not places like Newtown. Sociologist J. William Spencer<sup>13</sup> described the evolution of the public framing of youth violence as follows: From the 1980s to the mid-1990s, widespread concerns led to predictions of the emergence of a generation of young “superpredators” who would transform urban, impoverished neighborhoods into war zones. Youth violence was understood as endemic not only to the schools but to the surrounding poverty-stricken environs. In other words, schools were interpreted as violent because they were located in violent neighborhoods. Unspoken, but by extension, this also meant that schools in the suburbs should be relatively exempt from violence.

Contrary to forecasts, the rate of urban violence actually started to decline in the early 1990s. The trend continues to this day. Nevertheless, there remains relatively high fear about school violence, but with an important distinction. In the late

1990s, a rash of school shootings in such geographically dispersed small towns and rural locales as Bethel, AK (1997); Pearl, MS (1997); Paducah, KY (1997); Jonesboro, AR (1998); Edinboro, PA (1998); and Springfield, OR (1998), jolted the public’s concern from an exclusive focus on violent urban youth to accommodate the reality of shooting rampages occurring in rural and suburban schools. These events became amalgamated as a unified phenomenon with the 1999 Columbine High School shootings in Colorado.<sup>14</sup> The feared 1980s urban youth superpredator never materialized; instead, the school shooter emerged as the late-1990s exemplar of youth violence. The enduring legacy of the Columbine shooters was that they became the “poster children” for young violent offenders in schools, the contemporary superpredators, if you will.<sup>15</sup> The Columbine shooting was the supreme “tipping point” school shooting of its time and America has existed in the “post-Columbine era” thereafter.<sup>16</sup>

On the theme of public identification with Newtown, while many Americans may have dismissed the pertinence of school shootings occurring in urban distressed neighborhoods, or even in rural locales, using “them-not-us” logic, the relevancy of Columbine in 1999 and Sandy Hook in 2012 is undeniable. Mainstream America has been confronted with the reality that school shootings are not a problem that happens to other people; such attacks can happen in any school. The risk is shared universally.<sup>17</sup>

### **Involvement from Influence Leaders at the Highest Levels**

The Sandy Hook massacre commanded attention from the very top. Just hours after the shooting, Newtown First Selectman E. Patricia Llodra, the town’s highest-ranking official, appeared before the news cameras, quickly followed by the arrival of Connecticut Governor Dannel Malloy. However it was President Barack Obama who elevated the Sandy Hook chronicle to national priority status. In fact, a distinguishing feature of Sandy Hook was the direct and personal involvement of a sitting President.

Two days following the shooting on December 16, 2012, the President arrived in Newtown to meet with the victims’ family members. At the close of a nationally broadcasted ecumenical prayer service, the President called upon the entire nation to provide solace and support for the grieving Newtown community.

The President empaneled a group of national experts as members of the Gun Violence Task Force who were asked to identify a comprehensive portfolio of possible remedies to address the nation’s public health crisis of gun violence – within four weeks. On January 16, 2013, the President addressed the nation, presenting the wide-ranging options generated by the Task Force and signing a set of 23 Gun Violence Reduction Executive Actions on camera.<sup>18,19</sup> Concurrently, the White House website launched a page of resources under the banner, “Now is the Time: The President’s Plan to Protect Our Children and Our Communities by Reducing Gun Violence.”<sup>20</sup>

On February 12, 2013, two months after the Newtown massacre, President Obama delivered his State of the Union address

with family members of the Newtown victims seated in the galleries. In his remarks, the President spoke directly to the “tipping point” nature of Newtown when he said, “I know this is not the first time this country has debated how to reduce gun violence, but **this time is different.**”<sup>21</sup> Taking a page from the Malcolm Gladwell (author of *The Tipping Point*) playbook, the President facilitated the direct participation of victims’ family members, as “connectors,” to lobby Congressional leaders and the general public in support of proposed legislation for diminishing the rate and consequences of firearm violence in the United States.<sup>22</sup>

### **Pervasive Psychological Impact in Relation to Levels of Exposure**

School massacres not only kill and injure, they also psychologically traumatize. The expansive nationwide “psychological footprint” of Newtown is a unique characteristic of this event.<sup>23</sup> The deadliest school shooting in the US occurred at Virginia Tech in 2007.<sup>24</sup> In the immediate aftermath, Norris<sup>25</sup> reviewed the literature on the psychological impact of mass shootings on survivors, families, and communities. Among persons who directly experienced or witnessed a mass shooting incident, the prevalence of a post-event diagnosis of psychological disorder (PTSD was most commonly studied) was 10–36%. Norris noted that even higher proportions of the exposed population experienced distress and “subthreshold PTSD.” Compared with direct exposure to a broad spectrum of natural and human-generated disaster events,<sup>26,27</sup> the psychological consequences of onsite exposure to a mass shooting incident is on the “severe” end of the continuum. This finding was underscored by the fact that almost all direct victims or witnesses reported psychological symptoms.

Mass shooting events have served as the basis for pioneering studies that examined the proximity of exposure to the shooting event in relation to psychological outcomes. Pynoos and colleagues studied a sniper attack at an elementary school playground that occurred while some of the children were outside for recess.<sup>28–30</sup> Following a dose-response pattern, children who were on the playground had higher rates and greater severity of PTSD symptoms compared with children who were inside the school during the shooting episode, and children who were not on school premises during the shooting were minimally affected. Similarly, for Newtown, we can identify multiple “tiers” of exposure intensity.

#### **Population Exposure Model**

The manner in which a highly-focalized act of mass violence such as the Sandy Hook mass shooting becomes amplified to create community-wide, or even nationwide, psychological consequences has been intuitively formulated with the “Population Exposure Model” (PEM) developed by Deborah DeWolfe for the Department of Health and Human Services.<sup>31,32</sup> Simply stated, “The model’s underlying principle is that the individuals who are most personally, physically, and psychologically exposed to trauma and the disaster scene are likely to be affected the most.”<sup>31</sup> Applying the PEM, we provide a detailed presentation of the widespread and pervasive psychological effects specific to the Newtown shooting in narrative (Box 1) and graphic (Fig. 1)<sup>32</sup>

formats to both describe and display the event’s psychological “ripple effects.”

The PEM diagram consists of a set of concentric circles expanding outward from the point of maximum impact, inside the Sandy Hook Elementary School, the epicenter of the event.<sup>32</sup> In the PEM diagram the degree of exposure is portrayed using a color gradient. The inner rings, representing intense exposure are presented in shades of bright red and orange. Expanding from the center is a sequence of progressively larger rings, representing increasingly larger numbers of affected persons, but with diminishing intensities of exposure. Also to portray decreasing severity of exposure, the colors of the largest and most populated rings are portrayed in “cooler” shades of green and blue.

From the PEM model, it is apparent that while the physical harm was concentrated and confined inside a single building, the Sandy Hook Elementary School, the psychological impact radiated outward to the farthest reaches of the nation.

### **Extensive Media Exposure and Media Framing of Sandy Hook**

The media focus was instrumental in elevating the profile of the Sandy Hook shooting to “tipping point” status. School shootings are highly “mass-mediated” events. Mass media provide the conduits for propelling the story to the public. Although extremely rare, rampage shootings are closely watched and loom large in the public consciousness as examples of compelling social issues, such as school and gun violence. Indeed, the development of the social discourse and problem awareness surrounding the issue of school shootings cannot be seen apart from media processes. Mass media portrayals serve as an integral and inseparable part of the events themselves.<sup>33,34</sup>

When a Columbine- or Sandy Hook-style incident takes place, the intensity and constancy of the mass media bombardment contributes to the public’s widely held misperception that school shooting massacres are high-frequency, high-probability events. Despite the fact that very few persons, schools, and towns will ever experience school rampage incidents, these intermittent but well-publicized events exert a high degree of leverage on the public’s perception of the problem.<sup>14,15</sup> This is an example of a cognitive bias called the *availability bias*. People tend to unconsciously rely on the sheer volume of available event information to help them make judgments about event frequency; well-publicized events are incorrectly judged to occur more frequently than events that are not as well-publicized.<sup>35</sup>

The misguided notion that school shooting massacres are likely to occur in many communities across America is an example of how the availability bias can lead to a seemingly media-driven distortion of risk. Gun deaths are indeed common but mass shooting episodes are not. Consider that 30 gun homicides occur every day, equivalent to more than 11,000 per year.<sup>2</sup> Compare this “11,000” figure to the average annual number of school shooting deaths: 16 per year - and most are “targeted” shootings. The average number of school rampage shooting deaths is just 6 per year.<sup>2</sup>

### **Box 1. Population Exposure Model (PEM) Applied to the Sandy Hook Elementary School Shooting Massacre**

The widespread and pervasive psychological consequences emanating from the Sandy Hook Elementary School shooting can be described in terms of the PEM. We will review the tiers of persons affected by the shooting massacre, beginning from the center (most intense exposure) and extending outward. In the absence of knowledge of the specific exposures, and the precise degree of social connection for each individual, this classification presents an approximation of the psychological “reach” of this event.

#### **Deceased victims killed in the attack.**

The killings form the basis for most of the psychological trauma and the starting point for defining psychological effects. The shooter, Mr. Lanza, lived with his mother at her home. After killing his mother, Nancy Lanza, in her bed, Mr. Lanza drove five miles across town to Sandy Hook Elementary School where his shooting rampage claimed the lives of 26 victims. Shooting victims at the school were 20 first-grade children (all children in one classroom except for a single survivor and additional children in a second classroom) and six school staff (Principal Dawn Hochsprung, school psychologist Mary Sherlach, first grade teachers Victoria Leigh Soto and Lauren Rousseau (substitute), and teacher’s aides Anne Marie Murphy and Rachel D’Avino). As police entered the school, responding to an “active shooter” scenario, the perpetrator committed suicide. Adding the out-of-school matricide of Nancy Lanza and the in-school suicide of the shooter, Adam Lanza, to the 26 shooting victims on school premises, there were 28 total deaths.

Because these 28 individuals were killed, they are not depicted on the PEM diagram of survivors, but their deaths largely define where others appear on the continuum of multiple “tiers.”

#### **Tier 1**

##### **Directly-threatened and intensely-exposed survivors. Primary family members of the deceased victims.**

The most intensely exposed survivors included the two wounded school staff, the surviving children who were in the two classrooms where classmates and teachers were killed, and the bereaved primary family members of the victims who were killed. Two teachers were wounded and survived the attack. Having been directly accosted by the shooter, and having sustained firearm injury, these two school staff members could be considered to be among the most intensely exposed survivors.

##### **Primary family members of the deceased victims.**

In addition to Nancy Lanza’s surviving son (brother of the shooter), more than 150 primary family members of the 26 who were killed at the school (parents and siblings of the

20 slain children; parents, siblings, spouses, and children of the six slain staff members) are dealing with bereavement, the “fact of loss through death.” Because of the unpredicted, unanticipated, premature, and “unthinkable” nature of these deaths, exacerbated by the fact that these killings were intentional, premeditated acts of murder, it is likely that many first-line relatives will experience varying combinations of traumatic bereavement, complicated grief, and in substantial proportion, post-traumatic stress disorder (PTSD) or major depression.

##### **Surviving children in the classrooms where killings occurred.**

Among the children, the lone survivor in Ms. Rousseau’s class was spared death by lying perfectly still in the pile of fallen classmates until the shooter exited the classroom. A cluster of children escaped from Ms. Soto’s class, running past the shooter as their teacher was gunned down attempting to physically shield her students who burst out of the closet where they were hidden. These were the most intensely exposed children on that day.

#### **Tier 2**

##### **Surviving school children and staff who were in the school (but not in the line of fire) during the shooting and their primary family members.**

At the next level of exposure intensity are the remainder of the surviving school children, teachers, and staff who were in the school during the incident but not in the classrooms where the killings took place. Nevertheless, the remainder of the 400 children who attended school that day - and all school administrators, teachers, and staff - were exposed to the grotesque carnage in the hallways and classrooms, the pandemonium, and the frantic efforts to hide and escape from the line of deadly fire. They experienced various gradations of exposure as they co-habited the school premises with the shooter who was methodically stalking and killing.

Also included here would be the primary family members of these children and staff members who waited with extreme distress to see who would emerge alive. Parents and close relatives of the 400 children and dozens of staff members who survived the rampage maintained an anguishing vigil until their families were reunited. The hours of uncertainty, without proof of life, prior to reunification were agonizing and potentially traumatizing. Media coverage focused on the visibly distressed parents hovering at the periphery of the school, talking animatedly on their cell phones, and bunched in small groups for mutual support. Mixed with relief and gratitude, a powerful variation of survivor guilt played out for families whose children survived. Parents whose children, once released, sprinted toward their waiting embrace came together to support families less fortunate whose child was shot dead in a classroom just yards away from where their children had been spared.



### Tier 3

**Bereaved extended family members. Intensely-involved emergency responders.**

The third level of exposure intensity merges two categories of persons, the extended family members of those who were killed and the frontline responders. With more than 150 primary family members acutely bereaved by the shooting, the inclusion of extended family members (grandparents, aunts, uncles, cousins, other household members) certainly amplifies this number to more than 1,000.

The most dedicated, involved – and exposed – professionals who were on scene in their respective roles included the Newtown community government leaders; law enforcement, fire/rescue, and emergency medical services professionals who entered the school; medical examiners and their staff; and service providers who provided death notification and psychosocial support for the bereaved families. Hundreds of Newtown and State of Connecticut first responders arrived at the Sandy Hook Elementary School scene. As a small community, some of these personnel were part-time responders from a variety of professions. For all, the slaughter they witnessed had to be very troubling.

### Tier 4

**Care providers. Media personnel.**

Psychological impact was also felt by the mental health providers, clergy, chaplains, and spiritual leaders. School district personnel were tasked with providing support to Sandy Hook Elementary School students and staff who were relocated to continue their education in other schools. Media personnel were camped out in Newtown for weeks, witnessing and absorbing the effects of the shooting on the community.

### Tier 5

**Community of Newtown. Persons involved off-scene in the response. Stakeholders on issues of violence and mental health.**

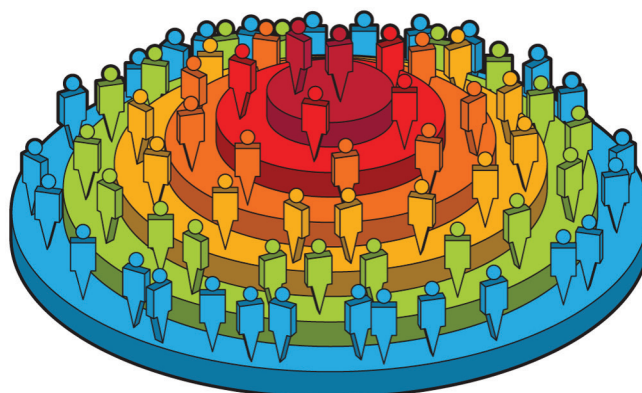
Expanding beyond those with direct ties to Sandy Hook Elementary School, the entire community of Newtown has been forever affected. A strong, cohesive community, they were showcased in their grief and heroism in the nationally televised prayer service and with grassroots organizations such as the Sandy Hook Promise ([www.sandyhookpromise.org/](http://www.sandyhookpromise.org/)),<sup>22</sup> the community has determined to be known for its indomitable resilience.







Also potentially affected psychologically, though at a more peripheral level, were government officials involved in response off-scene, public health professionals dealing with firearm violence, US stakeholders on issues of violence and mental health, and groups that identify professionally with the target victims such as teachers who work in school systems that regularly experience high risks for interpersonal violence.

### Tier 6

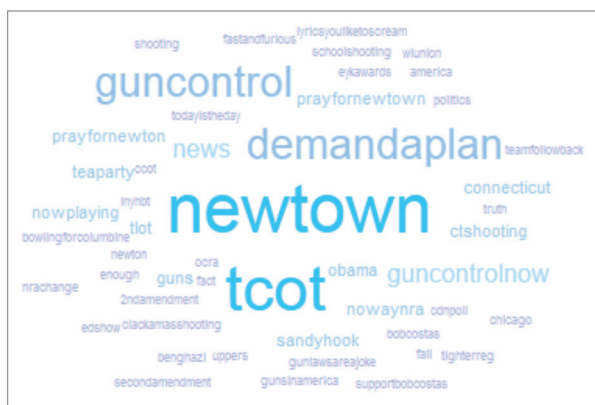
**The nation at large.**

The Newtown shooting was extensively televised and promulgated explosively through traditional and social media. The event, unfolding during the year-end family holiday season, was riveting for the nation at large and provoked strong emotional reaction in addition to energized rhetoric, debate, and dialog.



-  • Injured survivors: 2 teachers with gunshot wounds
- ~15 children who escaped from the first grade classrooms where classmates were killed
- ~150 bereaved primary family members of the 26 victims who were killed
-  • All surviving school children who were in the school during the incident
- All surviving non-injured school teachers/staff who were in the school during the incident
- Primary family members of the wounded teachers
- Primary family members of children and teachers/staff who survived
-  • Bereaved extended family members and friends of the 26 victims who were killed
- Newtown community government officials
- Rescue and recovery workers with prolonged exposure
- Medical examiners and staff
- Service providers directly involved with death notification
- Service providers directly involved with bereaved families
-  • Mental health providers, clergy, chaplains, spiritual leaders
- Health care providers
- School district personnel providing support to Sandy Hook students, staff
- Media personnel covering the story
-  • Newtown community at large
- Survivors of gun violence, school violence
- Groups that identify with target victim groups
- Government officials involved in response
- Public health professionals dealing with violence
- United States stakeholders on issues of violence and mental health
-  • United States citizens at large

**Figure 1.** Population Exposure Model.<sup>31,32</sup>



**Figure 2.** Relevant Twitter hash tags related to the word “gun” for the month of December 2012.

As one indicator of the disproportionate news coverage accorded to school mass shootings, Slate.com’s continuous tally of gun deaths post-Newtown (mentioned earlier) has exceeded 27,477 fatalities over ten months.<sup>10</sup> Yet only 9,388 (34.2%) of these deaths have been mentioned in any form of coverage, and usually just once, while the remaining two-thirds of firearm deaths have not received a jot of media publicity.<sup>10</sup> Clearly the mass murder of children and staff at Sandy Hook Elementary School is extraordinarily compelling, and the symbolic and visceral reality of these deaths should never be discounted. However, operating from a public health vantage, we point out that the prominent media play given to shooting massacres may obscure the fact that most gun deaths are suicides and single-victim homicides.<sup>2</sup> While Sandy Hook, as “tipping point,” vaults the issue of gun violence to the forefront, the development of a comprehensive set of remedies to address the total population burden of gun violence will not be optimally served by a singular focus on mitigating mass shootings.

## Proliferation of Social Media Communications

The four deadliest school shootings in United States history occurred in distinctly different eras of mass media evolution. The story of the 1966 Texas Tower sniper was conveyed to the public through the traditional channels of network television, radio, and print media. The 1999 Columbine High School shooting took place as 24-hour cable television and Internet news sources were gaining popularity but these modalities maintained the conventional top-down, “few-to-many” model of news delivery. At the time of the 2007 Virginia Tech University shooting, the use of social networking sites was an emerging trend but effective applications of social media in emergencies were yet to be developed. In contrast, by the time of the 2012 Sandy Hook Elementary School shooting, social media had expanded to become a dominant force for citizen communications about the event.

The proliferation of social media sites has lowered the technological threshold for citizen participation in the digital sphere, thus catapulting many times more participants into the public discourse on current events. The Pew Internet and American

Life Project<sup>36</sup> indicated that 65% of United States adult Internet users were participating in one or more forms of Internet social networking services<sup>37</sup> (SNSs; e.g., Facebook, Twitter, Tumblr, Instagram) in 2011, with 89% of the age 18–29 demographic using SNSs in 2012.

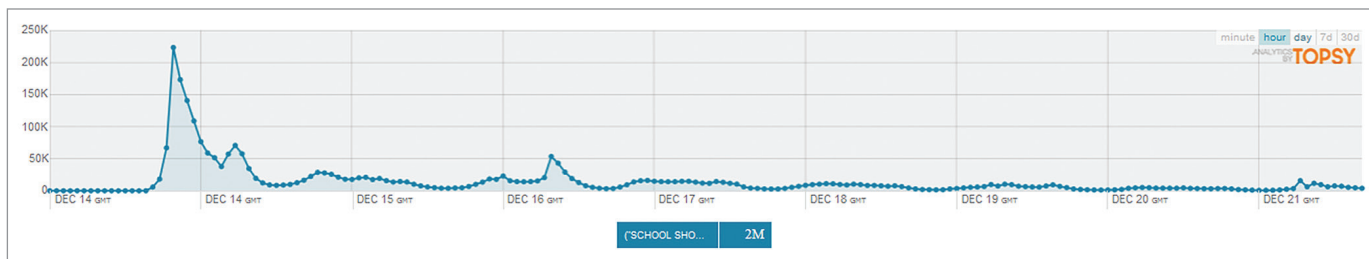
The availability and adoption of social media has transformed information sharing from a “one-to-many” format to a “many-to-many” conversation. SNSs provide a vast and inclusive platform for immediate, multi-directional communication and social connection. SNS users can convey their own story about the event and share their personal thoughts, feelings and perspectives. This creates a wealth of information and data that can be analyzed to understand the salient themes, reactions, and sentiments related to the event.

Based on the fact that online and SNS technology provides an ideologically neutral context for networking and communications, and a mechanism to instantly spread news reports worldwide, researchers are beginning to explore the role that online and social media play in events such as Sandy Hook.<sup>38</sup> Rampage school shootings provide an interesting case to examine this approach, given the small number of incidents relative to the impact of these events and large amounts of data generated.

Not all internet and SNS users engage with online and social media the same way or for the same purpose. For instance, Hoffman and Novak have developed a framework which categorizes four objectives for social media use - create, connect, consume, and control - the “4 C’s.”<sup>39</sup> With traditional top-down news delivery, a few producers “create” information for the many to “consume,” but social media engages all “4 C’s” in a complex dance of multi-way interactions. Not only is information shared quickly, but social media also brings people together. It allows people to be connected instantly while simultaneously creating, consuming, and controlling the media event.

To better understand the conversations happening in online and social media sites and how these conversations travel, researchers have developed new tools and technologies for collecting and analyzing the data generated. Using these tools, it is possible to sort and analyze the Tweets of interest related to the Newtown shooting. Using a word cloud to represent Twitter data, in which prominent hash tags are depicted in larger font, **Figure 2** illustrates relevant hash tags related to the word “gun” for the month of December 2012, thus highlighting the emphasis social media placed on the Newtown shooting (#newtown) and a National call to action (#demandaplan and #guncontrol).

An unpublished analysis performed by one of this article’s authors revealed that, on the day of the shooting, and the following week (December 14–21, 2012), there were three million Tweets worldwide containing the keywords: “school shooting,” “newtown,” or “sandyhook” (or the corresponding hashtags: #schoolshooting, #newtown, #sandyhook) as shown in **Figure 3**. One million of these Tweets originated from a media source, whereas 2 million Tweets originated from non-media sources. The geographic view of these Tweets shows an intense concentration of Tweets from inside Newtown and surrounding Fairfield County, with elevated levels for the entire State of Connecticut. Yet the expansive national and global diffusion of Tweets on this



**Figure 3.** Tweets from December 13, 2012–February 20, 2013. “School Shooting,” “Gun,” “Newtown.” Non-media only.

incident highlights that online and social media have the power not only to disseminate information, but also to connect individuals instantly and without physical - or geographical - limitations.

While the volume of Tweets related to the Newtown shooting dropped slightly over time, the public renewed social media conversations at times when President Obama made public statements about the event and demanded a call to action. The spikes in **Figure 4** represent an increase in the volume of Tweets with hash tags “schoolshooting,” “gun,” and “mental health” correlating with significant events. To be expected, these hash tags caused a spike on the day of the event, December 14, 2012. Of interest, the spikes returned on January 16, 2013 when the Obama administration unveiled their new gun control policies,<sup>40</sup> and then again following President Obama’s State of the Union address.<sup>21</sup>

## Concluding Discussion

When multiple concurrent events vie for attention, each with powerful public health, public safety, and public policy implications, how does a single incident emerge that compels and commands the focus of the American public? How does an event achieve “the moment of critical mass?”<sup>3</sup> We have examined the case of the Sandy Hook Elementary School shooting, a singular event, just 12 minutes in duration, that became instantly iconic in the history of gun violence in the United States. The memory of Sandy Hook has been reactivated with each subsequent episode of firearm violence including the rampant, multiple-victim shooting escapades in Chicago (the nation’s new “murder capital”)<sup>41</sup> and the Washington Naval Yard shooting<sup>42</sup> on September 16, 2013. Sandy Hook also provided the “what-if” counterpoint during the reporting of the Decatur, Georgia school shooting threat that was thwarted by the stunning courage of Antoinette Tuff, as she talked down the would-be killer.<sup>43</sup>

We have described six hallmarks of the Sandy Hook shooting massacre that coalesced into a riveting story and a call for action. The event was random and extreme. Americans identified closely with Newtown. A sitting President made this rampage shooting his personal mission. Powerful psychological reactions

spread nationwide. The mass media “framing” brought unrelenting focus to this episode. Social media messaging reverberated throughout the digital sphere, keeping individuals engaged in multi-way conversation. Collectively, these elements created a “tipping point” moment.

However, a call to action neither guarantees immediate change nor necessarily predicts the direction that change may take. As a tipping point, Newtown has acted as a fulcrum for action. Yet the leverage for action has been applied in opposite directions by competing factions. The most significant federal legislation brought forward as a direct result of the Sandy Hook Elementary School shooting was a bill to require background checks prior to authorizing a gun purchase. Family members of the Newtown victims were in Washington to actively lobby in favor of this legislation. Despite public acclaim and broad consensus for this legislation, with as many as 90% of Americans endorsing background checks, the bill went down to defeat in the Senate by a vote of 54–46 on April 17, 2013.<sup>44</sup> Meanwhile, action was also taking place at the state level. By June 2013, six months after the shooting, 86 state gun laws had been passed post-Newtown.<sup>45</sup> At least five states, including Connecticut where the shooting occurred, enacted tougher gun control legislation, but more than one dozen states loosened their gun laws.<sup>46</sup> As one of the most extreme examples of the contentiousness of the issues raised by Sandy Hook, The Second Amendment Foundation, a gun owners’ rights organization based in Washington just announced plans to declare the one-year anniversary of the Newtown shooting, December 14, 2013, “Guns Save Lives Day,” drawing swift reaction from the community that will be mourning its losses on that day.<sup>47</sup>

From a balanced perspective, hopefully, going forward, the momentum of the Sandy Hook Elementary School shooting will be channeled into an earnest search, and dedicated research, to identify a set of acceptable solutions to diminish the population burden, and the individualized horror, of gun violence in America.

## Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

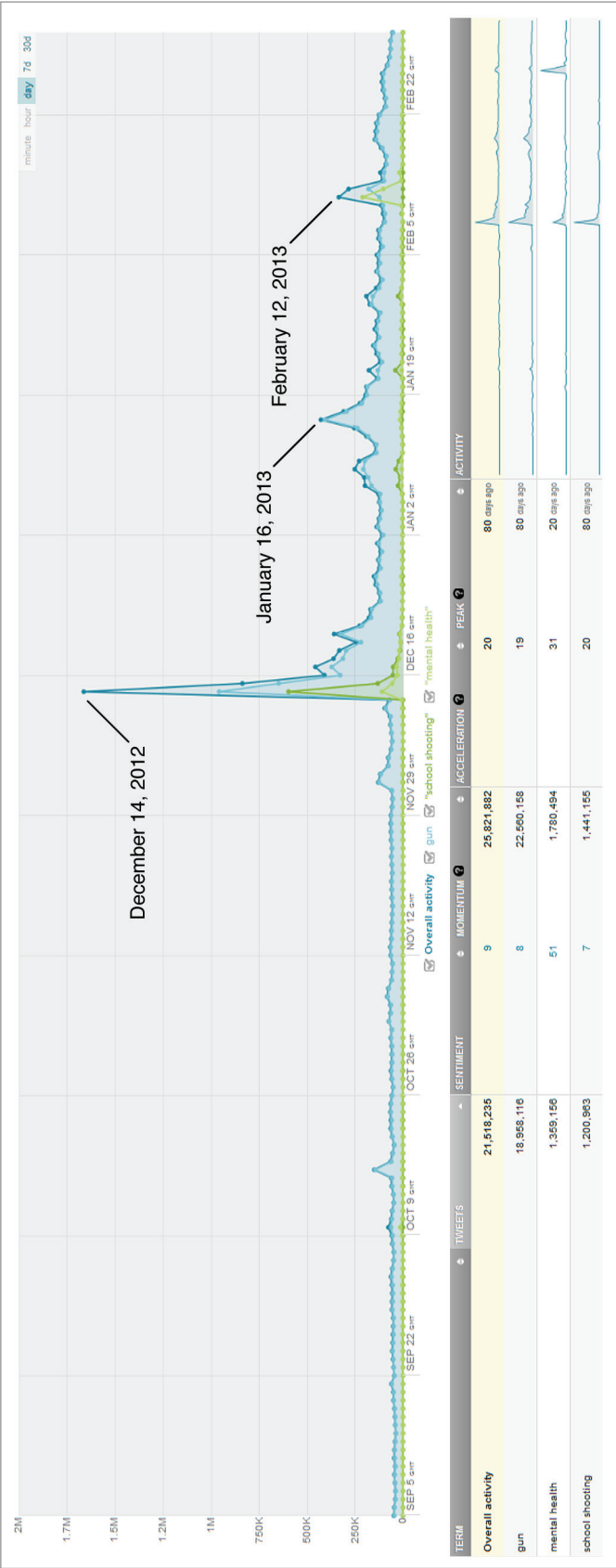


Figure 4. Twitter coverage: September 2012 to February 2013. "School Shooting," "Gun," "Mental Health."



## References

- Wikipedia. Sandy Hook Elementary School shooting. Available at: [http://en.wikipedia.org/wiki/Sandy\\_Hook\\_Elementary\\_School\\_shooting](http://en.wikipedia.org/wiki/Sandy_Hook_Elementary_School_shooting). Accessed 20 October 2013.
- Shultz JM, Cohen AM, Muschert GW, Flores de Apodaca R. Fatal school shootings and the epidemiological context of firearm mortality in the United States. *Disaster Health* 2013; 1; <http://dx.doi.org/10.4161/dish.26897>.
- Gladwell M. The Tipping Point: How Little Things Can Make a Big Difference. Little, Brown, & Company, 2000.
- Wikipedia. The Tipping Point. Available at: [http://en.wikipedia.org/wiki/The\\_Tipping\\_Point](http://en.wikipedia.org/wiki/The_Tipping_Point). Accessed 20 October, 2013.
- Cillizza C. The gun debate: Are the Newtown, Conn., killings a tipping point? The Washington Post, 16 December 2012. Available at: [http://articles.washingtonpost.com/2012-12-16/politics/35864130\\_1\\_gun-control-gun-ownership-stricter-gun-laws](http://articles.washingtonpost.com/2012-12-16/politics/35864130_1_gun-control-gun-ownership-stricter-gun-laws). Accessed 20 October 2013.
- LaRosa P, Fisher G. Expert calls Newtown shooting "fundamentally different" because it started with matricide. CBS News, 19 December 2012. Available at: [http://www.cbsnews.com/8301-504083\\_162-57559991-504083/expert-calls-newtown-shooting-fundamentally-different-because-it-started-with-matricide/](http://www.cbsnews.com/8301-504083_162-57559991-504083/expert-calls-newtown-shooting-fundamentally-different-because-it-started-with-matricide/). Accessed 20 October 2013.
- Gun Violence in America. Newtown's Horror. The Economist, 22 December 2012. Available at: <http://www.economist.com/news/leaders/21568735-only-drastring-gun-control-could-make-big-difference-small-measures-can-help-bit-newtowns>. Accessed 20 October 2013.
- Hoyert DL, Xu JQ. Deaths: Preliminary data for 2011. *Natl Vital Stat Rep*. 2012; 61(6):1-50. Hyattsville, MD: National Center for Health Statistics. Available at: [http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61\\_06.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr61/nvsr61_06.pdf). Accessed 20 October 2013.
- Muschert GW. Research in school shootings. *Soc Compass* 2007; 1:60-80; <http://dx.doi.org/10.1111/j.1751-9020.2007.00008.x>
- Kirk C, Hois D. How many people have been killed with guns since Newtown? Slate partners with @GunDeaths for an interactive, crowdsourced tally of the toll firearm have taken since Dec. 14. Slate.com. Posted June 13, 2013. Available at: [http://www.slate.com/articles/news\\_and\\_politics/crime/2012/12/gun\\_death\\_tally\\_every\\_american\\_gun\\_death\\_since\\_newtown\\_sandy\\_hook\\_shooting.html](http://www.slate.com/articles/news_and_politics/crime/2012/12/gun_death_tally_every_american_gun_death_since_newtown_sandy_hook_shooting.html). Accessed 20 September 2013.
- Newtown Connecticut. Welcome to the Town of Newtown! Available at: [http://www.newtown-ct.gov/Public\\_Documents/NewtownCT\\_WebDocs/about](http://www.newtown-ct.gov/Public_Documents/NewtownCT_WebDocs/about). Accessed 20 October 2013.
- Crime Rates for Newtown. CT. NeighborhoodScout. Available at: <http://www.neighborhoodscout.com/ct/newtown/crime/#data>. Accessed 20 October 2013.
- Spencer J. William. *The Paradox of Youth Violence*. Boulder, CO: Lynne Rienner Publishing, 2011.
- Muschert GW, Carr DC. Media salience and frame changing across events: Coverage of nine school shootings, 1997-2001. *Journalism Mass Commun Q* 2006; 83:747-66; <http://dx.doi.org/10.1177/107769900608300402>
- Muschert GW. The Columbine victims and the myth of the juvenile superpredator. *Youth Violence Juv Justice* 2007; 5:351-66; <http://dx.doi.org/10.1177/1541204006296173>
- Muschert GW, Madfabi E. Fear of School Violence in the post-Columbine Era. In: Muschert GW, Henry S, Bracy NL, Peguero AA (eds.). *The Columbine Effect: Fear and the Expansion of School Antiviolence Policy*. Boulder, CO: Lynne Rienner Publishers, 2014 (in press).
- Muschert GW, Peguero AA. The Columbine effect and school anti-violence policy. *Research in Social Problems and Public Policy: New Approaches to Social Problems Treatment*. 2010; 17:117-48; [http://dx.doi.org/10.1108/S0196-1152\(2010\)0000017007](http://dx.doi.org/10.1108/S0196-1152(2010)0000017007)
- The White House. Office of the Press Secretary. Gun Violence Reduction Executive Actions (Embargoed until the start of the President's Remarks). January 16, 2013. Available at: <http://www.washingtonpost.com/wp-srv/politics/documents/gun-proposals/GunViolenceReductionExecutiveActions.pdf>. Accessed 20 October 2013.
- The White House. Progress Report on the President's Executive Actions to Reduce Gun Violence, 17 April 2013. Available at: [http://www.whitehouse.gov/sites/default/files/docs/exec\\_actions\\_progress\\_report\\_final.pdf](http://www.whitehouse.gov/sites/default/files/docs/exec_actions_progress_report_final.pdf). Accessed 20 October 2013.
- The White House. Now is the Time: The President's Plan to Protect Our Children and Our Communities by Reducing Gun Violence. January 16, 2013. Available at: <http://www.whitehouse.gov/issues/preventing-gun-violence>. Accessed 20 October 2013.
- The White House. Remarks by the President in the State of the Union Address, 12 February, 2013. Available at: <http://www.whitehouse.gov/the-press-office/2013/02/12/remarks-president-state-union-address>. Accessed 20 October 2013.
- The Sandy Hook Promise. Available at: <http://www.sandyhookpromise.org>. Accessed 20 October 2013.
- Shultz, JM. Perspectives on disaster public health and disaster behavioral health integration. *Disaster Health*. 2013; 1:1-4; <http://dx.doi.org/10.4161/dish.24414>.
- Virginia Tech Review Panel. Mass Shootings at Virginia Tech. Report of the Review Panel Presented to Governor Kaine, Commonwealth of Virginia. August, 2007. Available at: <http://www.governor.virginia.gov/tempcontent/techpanelreport.cfm>. Accessed 8 August 2013.
- Norris FH. Impact of mass shooting on survivors, families, and communities. *PTSD Research Quarterly* 2007; 18:1-7
- Norris FH, Friedman MJ, Watson PJ, Byrne CM, Diaz E, Kaniasty K. 60,000 disaster victims speak: Part I. An empirical review of the empirical literature, 1981-2001. *Psychiatry* 2002; 65:207-39; PMID:12405079; <http://dx.doi.org/10.1521/psyc.65.3.207.20173>
- Norris FH, Friedman MJ, Watson PJ. 60,000 disaster victims speak: Part II. Summary and implications of the disaster mental health research. *Psychiatry* 2002; 65:240-60; PMID:12405080; <http://dx.doi.org/10.1521/psyc.65.3.240.20169>
- Pynoos RS, Frederick C, Nader K, Arroyo W, Steinberg A, Eth S, Nunez F, Fairbanks L. Life threat and posttraumatic stress in school-age children. *Arch Gen Psychiatry* 1987; 44:1057-63; PMID:3689093; <http://dx.doi.org/10.1001/archpsyc.1987.01800240031005>
- Pynoos RS, Nader K, Frederick C, Gonda L, Stuber M. Grief reactions in school age children following a sniper attack at school. *Isr J Psychiatry Relat Sci* 1987; 24:53-63; PMID:3443540
- Nader K, Pynoos R, Fairbanks L, Frederick C. Children's PTSD reactions one year after a sniper attack at their school. *Am J Psychiatry* 1990; 147:1526-30; PMID:2221168
- DeWolfe DJ, ed. *Mental Health Response to Mass Violence and Terrorism: A Training Manual*. Rockville, MD: Center for Mental Health Services, Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services, 2004.
- Office of the Assistant Secretary of Public Affairs. *Terrorism and Other Public Health Emergencies: A Reference Guide for Media*. U.S. Department of Health and Human Services, 2005; pp.170-172.
- Muschert GW. School shootings as mediatised violence. In: Böckler N, Seeger T, Sitzer P, Heitmeyer W (eds.): *School Shootings: International Research, Case Studies, and Concepts for Prevention*. New York, NY: Springer Publishing, 2012.
- Muschert GW, Sumiala J, eds. *School Shootings: Mediatised Violence in a Global Age*. Series on Studies in Media and Communications, Volume 7. Bingley, UK: Emerald Group Publishing, 2012.
- Tversky A, Kahneman D. Availability: A heuristic for judging frequency and probability. *Cognit Psychol* 1973; 5:207-33; [http://dx.doi.org/10.1016/0010-0285\(73\)90033-9](http://dx.doi.org/10.1016/0010-0285(73)90033-9)
- Madden M, Zickuhr K. 65% of online adults use social networking sites. Washington, DC: Pew Internet & American Life Project, August 26, 2011. Available at: <http://www.pewinternet.org/Reports/2011/Social-Networking-Sites.aspx>. Accessed 20 October 2013.
- Wikipedia. Social Networking Service. Available at: [http://en.wikipedia.org/wiki/Social\\_networking\\_service](http://en.wikipedia.org/wiki/Social_networking_service). Accessed 20 October 2013.
- Thackeray R, Crookston BT, West JHH. Correlates of health-related social media use among adults. *J Med Internet Res* 2013; 15:e21; PMID:23367505; <http://dx.doi.org/10.2196/jmir.2297>
- Hoffman DL, Novak TP. Why do people use social media? Empirical findings and a new theoretical framework for social media goal pursuit. *Social Science Research Network*. January 17, 2012. Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1989586](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1989586). Accessed 20 October 2013.
- Transcript. 2013 16 January President Obama's remarks on new gun control actions, Jan. 16, 2013 (Transcript) [http://www.washingtonpost.com/politics/president-obamas-remarks-on-new-gun-control-proposals-jan-16-2013-transcript/2013/01/16/528e7758-5ffc-11e2-b05a-605528f6b712\\_story.html](http://www.washingtonpost.com/politics/president-obamas-remarks-on-new-gun-control-proposals-jan-16-2013-transcript/2013/01/16/528e7758-5ffc-11e2-b05a-605528f6b712_story.html)
- Wikipedia. Washington Navy Yard Shooting. Available at: [http://en.wikipedia.org/wiki/Washington\\_Navy\\_Yard\\_shooting](http://en.wikipedia.org/wiki/Washington_Navy_Yard_shooting). Accessed 20 October 2013.
- Eversley M, Stanglin D, Strauss G. USA Today. Three killed, 23 wounded in latest Chicago shootings. Available at: <http://www.usatoday.com/story/news/nation/2013/09/20/chicago-shootings-back-of-the-yards/2841251/>. Accessed 20 October 2013.
- Smith M. Georgia Shooting. Antoinette Tuff Hailed as Hero. CNN Heroes. Available at: <http://www.cnn.com/2013/08/22/us/georgia-school-shooting-hero/index.html>. Accessed 20 October 2013.
- Bolton A. Senate rejects background checks on gun purchases in 54-46 vote. The Hill. April 17, 2013. Available at: <http://thehill.com/homenews/senate/294571-senate-rejects-tougher-background-checks-on-gun-purchases>. Accessed 20 October 2013.
- Toppo G. 6 months after Newtown: Rush of gun laws, mixed results. USA Today. June 14, 2013. Available at: <http://www.usatoday.com/story/news/nation/2013/06/13/gun-laws-after-newtown-a-mixed-bag/2421457/>. Accessed 20 October 2013.
- Drash W, Lyles T. CNN, June 8, 2013. States tighten, loosen gun laws after Newtown. Available at: <http://www.cnn.com/2013/06/08/us/gun-laws-states/>. Accessed 20 October 2013.
- Gold I, Mason A. Newtown residents oppose plan to make Dec 14, "Guns Save Lives Day." NBC Connecticut, October 12, 2013. Available at: <http://www.nbcconnecticut.com/news/local/Newtown-Opposes-Plan-for-Guns-Save-Lives-Day-on-Dec-14-227451271.html>. Accessed 20 October 2013.